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TITLE: FLATTENING METHOD FOR PHOSPHORUS SILICATE  
GLASS FILM

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ABSTRACT:

PURPOSE: To solve problems regarding the disconnection of Al wiring, the increase of diffusion length or the reduction of the phosphorus concentration of the PSG by flowing the PSG in steam gas exceeding atmospheric pressure.

CONSTITUTION: A LOCOS oxide film 2, a gate oxide film 3 and a polycrystal

silicon gate layer 4 with approximately 6,000Å film thickness are formed onto a P type silicon substrate 1. The arsenic ions of the quantity of injection of  $5 \times 10^{15} / \text{cm}^2$  are injected at voltage such as the acceleration voltage of 160KeV, and diffusion layers 5 functioning as drain and source regions are coated. The PSG 6 of the phosphorus concentration of 8mol% is further coated. The PSG 6 is flowed in a high pressure oven for 10min at 900°C in the steam of the gas pressure of  $8 \text{ kg/cm}^2$ . Lastly, the PSG 6 is flowed in high-pressure steam, and the Al wiring 7 is formed, thus completing a MOS type transistor.

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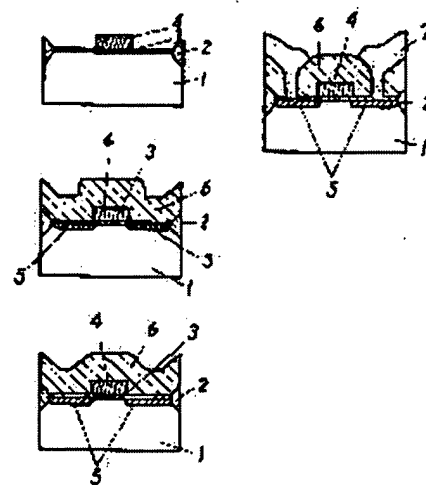
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## (54) FLATTENING METHOD FOR PHOSPHORUS SILICATE GLASS FILM

### (57)Abstract:

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